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ADDITIONS TO THE JAPANESE LAND SNAIL FAUNA.—VI.

BY HENRY A. PILSBRY.

The present communication consists chiefly of detailed descriptions of species briefly defined in footnotes to my *Catalogue of the Clausiliidæ of the Japanese Empire,*[1] although a number of new species, not enumerated therein, are now defined. The discovery of all of these forms we owe to the continued exertions of Mr. Y. Hirase, of Kyoto, Japan.

Section MEGALOPHÆDUSA Boettger.

Clausilia mitsukurii Pilsbry.

Pilsbry, these *Proceedings* for 1901, p. 648, footnote No. 2 (March 1, 1902).

Shell rimate, fusiform, *short* and *obtuse at the ends,* somewhat *Bulimimus*-shaped; purplish-brown under a thin cuticle, which has been almost entirely lost in the type specimens. Surface dull, finely striate, everywhere extensively eroded by the joint action of free carbonic acid and mechanical wear. Spire tapering to the *very obtuse* apex. Whorls 8½ to 8¾, slightly convex, the latter half of the last whorl compressed, tapering. Aperture but slightly oblique, fleshy-brown within, oval or ovate. Peristome reflexed, flesh-colored, the upper margin adnate for a short distance. Superior lamella oblique, not reaching the margin, continuous within with the spiral lamella, which extends to a latero-ventral position. Inferior lamella retreating, distinctly truncate at its base, giving off a branch toward the superior lamella, strong, but slightly curved and obliquely ascending within, penetrating deeper than the superior lamella, to the ventral side. Subcolumellar lamella barely emerging. Principal plica short, latero-dorsal.

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[1] In all cases the descriptions have been drawn from the original specimens defined in the footnotes of that catalogue, though in some cases additional material has also been studied in connection with the types.

About 8 short, almost tuberculiform palatal plicæ stand in a lateral position, the upper and lower ones being a little larger.

Length 28½, diam. 8½, length of aperture 9 mm.

Length 28¾, diam. 7½, length of aperture 8¼ mm.

Length 29, diam. 8, length of aperture 8½ mm.

Clausilium long and narrow, parallel-sided, tapering and thin at the distal end, moderately excised on the columellar side of the filament.

Tomisato, Kii. Types No. 82,468, A. N. S. P., from No. 762 of Mr. Hirase's collection.

In this species the spire is shorter, thicker and more obtuse than in any form of *C. martensi* which has come under my observation. It is also smaller, with fewer whorls.

In the type specimens there remains very little cuticle, and what there is is extensively, minutely pitted and of a yellow or golden color around the pits.

Named in honor of the well-known Japanese zoologist. It will be figured in connection with a review of the section *Megalophædusa.*

Clausilia ducalis var. **decapitata** n. v.

Much smaller than the typical *ducalis* or var. *dorcas,* base more tapering. Early whorls lost in the adult stage, only 7 to 7½ remaining, the summit being thus very blunt. The surface is dull, finely and weakly striate, more deeply so on the base. Palatal plicæ 4, the upper long; no lower palatal plica.

Length 25, diam. 6 mm.

Length 22½, diam. 6⅓ mm.

Kashima, Harima. Types No. 83,239, A. N. S. P., from No. 913*a* of Mr. Hirase's collection.

Section HEMIPHÆDUSA Boettger.

Group of C. sublunellata.

Möllendorff, Journ. Asiatic Soc. of Bengal, LIV, pt. 2, p. 63 (1885).
Pilsbry, these *Proceedings* for 1901, pp. 477, 649.

This group was originally defined from species collected in the region of Nikko and Lake Chusenji, in Province Shimotsuke. Mr. Hirase's researches have now brought to light species far to the southward, in Kii Province, and extending its range northward to the southern part of Yesso. So far as present information goes, no species of the group occurs in Shikoku, southwestern Nippon or Kyushu. It seems to be a group of middle and northern Nippon. The most important structural peculiarities of the group are the absence of any pronounced emargination or excision of the clausilium on the columellar side of the filament, and the lack of a lower palatal plica. All the species are pale-colored.

Most of the species defined by von Möllendorff have not been figured, and were apparently described from very few specimens. In studying them I have found the table opposite, compiled from the original diagnoses, a useful aid;[2] and its publication may assist others.

Clausilia heteroptyx n. sp. Pl. XVIII, figs. 17, 18, 19, 20, 21, 22.

Shell rimate, stoutly fusiform, solid, light yellow, the cuticle partly worn off, somewhat glossy, lightly striate, a little more strongly so just behind the lip. Spire rather thick, regularly tapering, not attenuated, the apex obtuse. Whorls 9, but slightly convex, the last flattened, rounded beneath. Aperture but slightly oblique, ovate, the peristome continuous, appressed to the preceding whorl above, expanded and reflexed. Superior lamella oblique, rather high, continuous with the spiral lamella, which penetrates to about the middle of the ventral side. Inferior lamella forming a distinct though obtuse fold on the columella, somewhat thickened and bifurcate within, rather straightly ascending and thickened within the dorsal side, penetrating further than the spiral lamella. Subcolumellar lamella slightly immersed, the end visible in a front or oblique view, but not extending upon the lip. Principal plica not quite a half whorl long, the lower end visible deep in the throat, extending inward past a lateral position. Lunella straight and narrow, one or two short, oblique palatal plicæ above it.

Length 26.5, diam. 6.6, length of aperture 7.8 mm.

Length 25.2, diam. 6.5, length of aperture 7.2 mm.

Length 24, diam. 6.5, length of aperture 7 mm.

Clausilium not much curved, long, narrow and parallel-sided, the palatal side somewhat thickened, apex rather acuminate; there is no noticeable excision or emargination near the filament (Pl. XVIII, figs. 21, 22).

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[2] The model is that of Prof. von Martens, used very successfully by him in the land mollusks of the *Biologia Centrali Americana.*

Species and Locality.	Shape.	Color, Sculpture.	Aperture.	Superior lamella.	Inferior lamella.	Subcolumellar lamella.	Principal plica.	Palatal plicæ.	Lunella.	Alt.	Diam.	Whorls.	Size of Aperture in mm.
C. sericina. L. Chusen-ji.	Rather swollen fusiform, solid.	Corneous; delicately striate, silky, the last whorl hardly more striate.	Rounded-piriform; perist. continuous solute, much thickened.	Strong, oblique, contiguous to spiral lam.	Inconspicuous in front, truncate below.	Slightly emerging.	Deep, hardly visible in the aperture.	2, the upper short, second punctiform or obsolete.	None.	22½	5	10-10½	5½ x 4
Var. *minor.* Yumaga-aishi.	Ditto.	Ditto.	Ditto.	Ditto.	Ditto.	Immersed.	Ditto.	Ditto.	Ditto.	20½		11	
C. sublunellata. Mountains of Nikko.	Swollen fusiform, rather solid, 4 earlier whorls forming a cylindric, obtuse spire.	Corneous-brown, very finely striate	Long-piriform; perist. nearly free, much thickened, a little reflexed.	Strong, oblique, triangular, continuous with spiral lamella.	Receding, straightened, strong within.	Immersed, visible in an oblique view.	Moderate, passing the lateral line.	2, the upper short, subparallel to the principal p.; lower very short.	Short and straight.	24	5	11	6 x 4
C. subulina. L. Chusen-ji.	Slenderly fusiform, rather solid.	Corneous?, sub-pellucid, delicately striatulate, the last whorl rugose-striate.	Rounded-piriform; perist. solute, thick, reflexed, sinuate above, white-lipped	Strong, oblique, continuous with spiral lamella.	Remote, disappearing below but giving off a nodule to the margin.	Emerging.	Moderate.	Upper plica diverging from principal plica.	Lateral, subobsolete, or formed of 2 or 3 punctiform plicæ.	16	3	10	3½ x 2¾
C. opeas. Mountains of Nikko.	Cylindric-fusiform, rather solid.	Corneous; finely striatulate, the last whorl rugose-striate.	Elongate-rounded; perist. solute, a little reflexed, slightly thickened.	Marginal, moderate.	Remote, inconspicuous, strong within.	Immersed, visible in an oblique view.	Slightly passing the lateral line.	Upper plica short, diverging, lower punctiform.	Short and straight.	17½	3½	10½	3½ x 2½
C. micropeas L. Chusen-ji.	Long-fusiform, thin.	Pale corneous; finely costulate.	Rounded-piriform; perist. solute, a little reflexed.	Oblique, continuous with spiral lamella.	Remote, inconspicuous.	Immersed.	Quite short.	One short lateral upper plica and sometimes a 2d punctiform plica.	Reduced to a mere indication.	10½ to 11½	2¼ to 2½	9½	2-2⅓ x 1¾-2

Tomisato, Kii. Types No. 82,485, A. N. S. P., from No. 764*a* of Mr. Hirase's collection. It occurs also at Nachi, Kii.

This species is related to *C. sublunellata* and *C. opeas*, both described by Dr. von Möllendorff from the mountains around Nikko, Prov. Shimotsuke. Compared with the description of *C. sublunellata*, the present species is less slender, with fewer whorls and a larger aperture. *C. opeas* is a smaller and much more slender species, with much smaller aperture.

A remarkable variation occurs in one of the specimens of the type lot opened, which has two short palatal folds above, not connected with the lunella (fig. 19).

In a specimen from Nachi opened, the single upper palatal fold is connected with the lunella (fig. 18). This specimen measures, length 27, diam. 6.8 mm., and has nearly 10 whorls.

Clausilia subulina var. **leucopeas** nov. Pl. XVIII, figs. 28, 29, 30, 31, 32.

Shell rimate, fusiform or somewhat cylindric, whitish-corneous or greenish-corneous, *densely and finely but sharply striate*, glossy. Spire tapering and attenuated above, though rather large at the summit. Apex obtuse. Whorls 10, convex, the last somewhat flattened, not more coarsely striate. Aperture somewhat oblique, piriform, the peristome continuous, very shortly free above, a little notched at the position of the superior lamella; white, reflexed and a little thickened within. Superior lamella rather strong, oblique, continuous with the spiral lamella, which extends inward to the middle of the ventral side. Inferior lamella receding, inconspicuous in a front view or forming a slight columellar fold; thickened and rather straightly ascending within, penetrating as far as or a little further than the spiral lamella. Subcolumellar lamella usually emerging to the lip-edge (fig. 30), but sometimes immersed (fig. 29). Principal plica strong, visible deep in the throat, extending to a latero-ventral position. Below it there is a short, oblique upper palatal plica, weakly connected with, or almost separated from, the rather narrow lunella, which is stronger below than above (and sometimes reduced or almost wholly wanting).

Length 15.7, diam. 3.8, length of aperture 3.5 mm.

Length 16, diam. 3.2, length of aperture 3.5 mm.

Length 14, diam. 3.3, length of aperture 3.3 mm.

Clausilium (Pl. XVIII, figs. 31, 32) long and parallel-sided, tapering-rounded and thin at the apex, hardly excised on the columellar side of the filament.

Ikoma, Kii. Types No. 82,484, A. N. S. P., from No. 766*b* of Mr. Hirase's collection. Also Tomisato, Kii, No. 766*a*, and Samotonaka-mura, Kii, No. 766*c* (Mr. Hirase).

This form seems to be related to *C. subulina* Mlldff., an unfigured species described from Lake Chusenji in Shimotsuke Province, west of beautiful Nikko. It is apparently somewhat less slender than that, not especially rugose striate on the last whorl, with a better developed lunella. I have not seen *C. subulina.*

Old specimens become dull and opaque, and lose much of the fine striation by wear. Some of the shells from Tomisato are of a light brown tint, others being whitish-corneous like the types. In two specimens opened from Ikoma (No. 769) the lunella is so weak as to be hardly perceptible. The indistinct vestige would not be noticed in these shells were it not better developed in others of the species. It is apparently an abundant shell in the Province Kii.

Clausilia sericina var. **rhopalia** Pilsbry. Pl. XVIII, figs. 23, 24, 25, 26, 27.

Pilsbry, these *Proceedings* for 1901, p. 624 (February 6, 1902).

Figures are here given of the types of this subspecies, not hitherto figured. It is a larger and stouter shell than *C. subulina* var. *leucopeas,* and the inferior lamella forms a more or less prominent columellar fold. It is from Mikuriya, Suruga.

Compared with the description of *C. sericina* Mlldff., from Lake Chusenji, these specimens differ in the emerging inferior lamella and the palatal armature, which, if von Möllendorff's description is correct, must be quite different, as he states, after mentioning the deeply placed principal plica, that it has two palatal plicæ, the upper short, second punctiform or obsolete, the lower and the lunella wanting. In *rhopalia* there is a single short upper palatal plica and a long, narrow lunella. In external contour the two forms agree.

The type of *C. sericina* was in the Hungerford collection, and its present location is unknown to me.

Group of C. validiuscula.

Clausilia carystoma Mlldff. Pl XVII, figs. 1, 2.

Möllendorff, Journ. Asiat. Soc. Bengal, LI, pt. 2, p. 6, Pl. 1, fig. 5 (1882); LIV, pt. 2, p. 65 (1885).

Specimens before me from Kobe, Setsu, the type locality, agree well with Möllendorff's description and figure, except in having 10 whorls instead of 9, and in being a trifle larger. The very short lunella is connected with the lower palatal plica in the specimen figured (figs. 1, 2), but in another it is a short fold exactly as figured for var. *jayi* (Pl. XVII, fig. 3). The figured shell measures length 15, diam. 3.7 mm. The spiral and inferior lamellæ are of equal length, reaching past the ventral side to a lateral position on the left side.

The species is somewhat remarkable for the nearly ventral position of the palatal plicæ, a point which von Möllendorff has emphasized. They are placed quite as in *Tyrannophædusa,* while in *Hemiphædusa* these plicæ are generally lateral or latero-dorsal. The long spiral lamella is also a Tyrannophædusan character.

The clausilium is narrow, parallel-sided, rather straight, noticeably oblique at the distal end (but not thickened there as it is in *Tyrannophædusa*), and excised on the columellar side near the filament. It is like that of var. *jayi.*

C. caryostoma is known only from Kobe, Setsu. The specimen figured was sent by the late Mr. B. Schmacker (No. 60,378, A. N. S. P.).

Clausilia caryostoma var. **jayi** nov. Pl. XVII, figs. 3, 4, 5, 6.

Shell rimate, fusiform, moderately attenuated above, glossy, brown, distinctly and finely striate, a little more coarsely so on the latter part of the last whorl. Whorls 10, moderately convex, the last flattened and tapering. Aperture ovate-trapezoidal, the brown-tinted peristome continuous, reflexed and thickened, shortly free and not emarginate above. Superior lamella rather small, oblique, slender, marginal, continuous with the spiral lamella, which penetrates inward *past the ventral side.* Inferior lamella receding, inconspicuous in a front view, rather low and obliquely ascending within, as long as the spiral lamella. Subcolumellar lamella varying from immersed to weakly emerging. *Principal plica very long,* extending from a ventral position above the sinulus nearly to the lip. Palatal plicæ three, *nearly ventral, the upper and lower long,* the intermediate one *short and small.*

Length 13, diam. 2.9, length of aperture 3 mm.

Length 12, diam. 2.8, length of aperture 2.8 mm.

Clausilium (Pl. XVII, figs. 4, 5) narrow, a little obliquely tapering at the apex, deeply excised on the columellar side of the filament.

Jo, Kii. Types No. 82,476, A. N. S. P., from No. 770*c* of Mr. Hirase's collection. Also Yamaguchi, Tajima.

This form differs from *C. caryostoma* chiefly in being smaller, less coarsely striate and more slender, with a larger aperture. Named for Dr. John C. Jay, author of one of the earliest papers on Japanese shells.

Clausilia graciæ Pilsbry. Pl. XVII, figs. 7, 8, 9, 10, 11.

Shell *very small,* slenderly fusiform, pale brown, finely striate, a little more coarsely so on the back of the last whorl. Upper half strongly attenuated, penultimate whorl somewhat swollen, latter half of the last whorl compressed and tapering, the position of the principal plica *marked by a shallow but distinct sulcus.* Whorls 9, the first rather globose, the rest moderately convex. Aperture slightly oblique, ovate-piriform, the peristome continuous, shortly free above, reflexed, and strongly thickened within. Superior lamella small and vertical, continuous with the spiral lamella, which ascends past the middle of the ventral margin. Inferior lamella receding, inconspicuous in a front view, but seen to form a distinct fold when viewed obliquely in the aperture; straightly and obliquely ascending within, penetrating as far as the spiral lamella. Subcolumellar lamella deeply immersed. Principal plica long and strong, extending from a latero-ventral position nearly to the lip. There are *two long, strong and oblique lateral palatal plicæ, with a strong, short lunella between them, not connected with either.*

Length 9.3, diam. 2.2 mm.

Length 7.7, diam. 2 mm.

The clausilium is narrow and parallel-sided, tapering at the distal end, and abruptly, deeply excised on the columellar side of the filament (figs. 7, 8).

Nachi, Kii. Types No. 82,458, A. N. S. P., from No. 794 of Mr. Hirase's collection.

This species shares with *C. hirasei* and *C. euholostoma* the distinction of being one of the smallest known from Japan. It is not closely related to any of the described forms, standing nearer *C. aulacophora, C. pigra* and *C. tosana* than to other species now known. It is much smaller than *C. caryostoma* or the variety *jayi.*

The diminutive stature together with the several characters italicized above readily distinguish the species. Some specimens taper more slowly and regularly than others, as the figures show.

Group of C. aulacophora.

This group passes into the group of *C. validiuscula* by such an easy transition that it is rather difficult to draw a line between them, although typical forms are so different. In the latter group there are several palatal plicæ standing between the upper and lower ones, while in the former these plicæ are united, and thereby transformed into a lunella.

Clausilia pigra n. sp. Pl. XXI, figs. 73, 74.

Shell rimate, rather slenderly fusiform, strongly attenuated above, light reddish-brown, finely striate (or smooth by wearing or erosion of the surface in some specimens). Spire very slender above, the first whorl rather globose, several whorls following not increasing in diameter (but in eroded individuals it is acute and tapering). Whorls 10 to 10½, convex, the last compressed laterally, tapering; *becoming free* for a short distance in front, and grooved above the position of the superior lamella. Aperture *piriform*, subvertical, the distinct sinulus retracted. Peristome continuous, white, reflexed and thickened, sinuous above. Superior lamella marginal, rather small, subvertical, continuous with the spiral lamella, which penetrates past the ventral side. Inferior lamella immersed, deeply receding, thick, straightened, branching and obliquely ascending within, penetrating as far as or less deeply than the spiral lamella. Subcolumellar lamella deeply immersed. Principal plica long, extending from the ventral side nearly to the aperture. Upper and lower palatal plicæ are connected by a straight lunella, forming a barrier shaped like the letter I, and exactly lateral in position.

Length 15.5, diam. 3.3, length of aperture 3.4 mm.

Length 14, diam. 3.3, length of aperture 3 mm.

Length 15, diam. 3, length of aperture 3 mm.

Clausilium narrow and parallel-sided, abruptly and deeply excised on the columellar side of the filament.

Kashima, Harima. Types No. 82,455, A. N. S. P., from No. 306*c* of Mr. Hirase's collection.

By the shape of the aperture and the forwardly built, shortly free last whorl, this species is related to *C. tosana* Pils.; but it differs from *tosana* in the more deeply penetrating lamellæ and principal plica, the distinct lunella connecting the two palatal plicæ I-like, and the larger size of the less slender shell. Moreover, the clausilium is deeply excised on the columellar side near the filament, as in *C. harimensis*, while in *tosana* it merely tapers there.

C. pigra is probably not closely related to *C. aulacophora*, although by parallel evolution it has attained the same type of palatal armature.

At Nametoko, Iyo, on Shikoku Island, a form of *C. tosana* occurs in which there is an imperfect lunella in place of the intermediate palatal plicæ, at least in some specimens (No. 82,288, A. N. S. P., from Mr. Hirase's No. 550*b*).

Group of C. awajiensis.

Two remarkable additions are made to this group in *C. agna* and *C. caloptyx*, the first very glossy and smooth, the second beautifully sculptured with strong riblets.

Clausilia subignobilis Pilsbry. Pl. XIX, figs. 33, 34, 35, 36.

These *Proceedings* for 1901, LIII, p. 655, footnote No. 9 (March 1, 1902).

Shell fusiform, attenuated above, very pale reddish-brown or gray-brown, somewhat glossy, finely striate, on the last half of the last whorl more coarsely so. Aperture trapezoidal-ovate, slightly oblique. Peristome well expanded, continuous, shortly free and concave or notched above. Superior lamella small, marginal, disconnected from or barely connected with the spiral lamella, which penetrates barely to the ventral side. Inferior lamella deeply receding, slender and vertically ascending within, about as long as the spiral lamella. Subcolumellar lamella emerging to the lip-edge, and bounded by grooves. Principal plica short, lateral, the lunella bow-shaped, its upper and lower ends bending strongly inward.

Length 15.2, diam. 3.5 mm.

Length 13, diam. 3.1 mm.

Clausilium narrow, parallel-sided, rounded at the apex, somewhat excised on the columellar side of the filament.

Hirado, Hizen, in western Kyushu. Types No. 82,954, A. N. S. P., from No. 733 of Mr. Hirase's collection.

Close to *C. shikokuensis*, in which, however, the spiral and inferior lamellæ are longer, the principal plica longer and stronger, the subcolumellar lamella is immersed, and the lunella is strictly lateral. In *C. subignobilis* the subcolumellar lamella emerges strongly, and the lunella is somewhat dorso-lateral. Mr. E. R. Sykes, who kindly compared it with the type of his *C. ignobilis*, now in the British Museum, writes that *ignobilis* is "a yellower shell with more cylindrical and larger earlier whorls, more like *C. ischna* and *C. iotaptyx.*" Moreover, if the figure of *C. ignobilis* is correct, the lunella is lateral, not dorso-lateral, as it is in *subignobilis.*

The three species, *C. ignobilis*, *C. shikokuensis* and *C. subignobilis*, agree in the shape of the lunella, and are evidently closely related.

Clausilia tantilla Pilsbry. Pl. XIX, figs. 43, 44.

These *Proceedings* for 1901, LIII, p. 655, footnote No. 10 (March 1, 1902).

Shell very small, fusiform, attenuated above, the last three whorls rather large; dull reddish-brown or gray, without cuticle in adult shells; striate, but worn smoothish, the last whorl more coarsely striate behind. Whorls 8½, the first rather large, last compressed. Aperture slightly oblique, trapezoidal-ovate. Peristome reflexed and thickened, continuous, very shortly free above. Superior lamella small, abruptly lower where it joins the low spiral lamella. Inferior lamella receding, vertically ascending within. Subcolumellar lamella usually wholly immersed (but in one specimen of five emerging weakly to the lip-edge). Principal plica dorsal and lateral. Upper palatal plica short, a straight oblique, lateral lunella joining it in the middle. No lower palatal plica.

Length 9.5, diam. 2.5 mm.

Length 8.3, diam. 2.2 mm.

Gotō, Hizen. Types No. 83,023, A. N. S. P., from No. 813 of Mr. Hirase's collection. The locality was erroneously given "Goto, *Uzen,*" in a former communication.

A very small form, differing from other known species of the group of *C. awajiensis* in the straight lunella, which does not curve inward below, and in the diminutive size of the shell.

Clausilia bigeneris Pilsbry. Pl. XIX, figs. 37, 38.

These *Proceedings* for 1901, LIII, p. 656, footnote No. 12 (March 1, 1902).

Shell fusiform, moderately solid, pale reddish-brown, apparently deprived of cuticle; surface lustreless, weakly striate; acutely tapering above to a small and rather acute apex. Whorls 10, moderately convex, the last compressed. Aperture shortly ovate, but slightly oblique. Peristome continuous, shortly free above, moderately thick and broadly flaring, reflexed, excavated at the sinulus. Superior lamella marginal, subvertical, continuous with the spiral lamella, which penetrates to the middle of the ventral side. Inferior lamella deeply receding, subvertical within the last whorl, a little thickened below, not extending inward as far as the superior lamella. Subcolumellar lamella deeply immersed. Principal plica strong, approaching the lip, extending slightly past the middle of the lateral position. Upper palatal plica short, oblique, slightly disconnected from the lunella. Lunella dorso-lateral, straight above, curving far inward below.

Length 14.3, diam. 3.5 mm.

Clausilium narrow, rounded at the apex.

Gotō, Hizen. Types No. 82,956, A. N. S. P., from No. 818 of Mr. Hirase's collection. The locality was incorrectly given as Goto, Uzen, in my preliminary description.

This species recalls *C. subaurantiaca* somewhat. The lip is unusually developed. The slight notch between the lunella and the short upper palatal plica is unlike the allied species, and reminded me at first of some species of the group of *C. sublunellata*, but the strong inward bend of the lower end of the lunella shows clearly that it belongs to the group of *C. awajiensis.*

Clausilia agna n. sp. Pl. XIX, figs. 39, 40, 41, 42.

Shell fusiform, moderately solid, the penultimate whorl widest, preceding and last whorls a little narrower, those above tapering to a somewhat obtuse apex. Brownish-yellow, somewhat transparent. *Surface brilliantly glossy,* as though varnished, showing some faint growth wrinkles under a lens. Whorls 7–8, moderately convex, the suture often appearing margined by transparence. Last whorl not differently sculptured. Aperture subvertical, squarish-ovate. Peristome expanded and narrowly reflexed, hardly thickened, the upper margin adnate or barely free from the preceding whorl. Superior lamella compressed, marginal, continuous with the spiral lamella, which does not reach quite to the middle of the ventral side. Inferior lamella deeply receding, a little thickened near its lower end, straightly ascending, not penetrating as deeply as the spiral lamella. Subcolumellar lamella weakly emerging. Principal plica short, visible within the mouth, extending inward past the lunella. Upper palatal plica very short, connected with a rather low, nearly straight, slightly dorso-lateral lunella, the lower end of which curves abruptly inward.

Length 10.2, diam. 2.5 mm.; whorls 7⅔.

Length 8.6, diam. 2.3 mm.; whorls 6¾.

Clausilium (Pl. XIX, figs. 39, 40) parallel-sided, nearly straight, rounded apically, deeply excised on the columellar side of the filament.

Yakushima, Ōsumi. Types No. 82,959, A. N. S. P., from No. 663*c* of Mr. Hirase's collection.

This species resembles *Zaptyx* in texture and general structure, as well as in the form of the clausilium, but it differs in wanting the sutural plicæ and the accessory lamellæ of that group. It is remarkable for the varnish-like gloss of the surface.

Clausilia caloptyx n. sp. Pl. XIX, figs. 45, 46, 47, 48.

Very small, fusiform, pale corneous-brown, solid and strong, rather rapidly tapering above to a rather obtuse apex. *Surface regularly sculptured with strong, straight ribs,* very coarse for so small a shell. Whorls 7½, convex, the last somewhat compressed, with the ribs a little more separated. Aperture squarish-ovate. Peristome white, continuous, reflexed, thickened within, very shortly free above, notched at the position of the superior lamella. Superior lamella marginal, compressed, subvertical, continuous with the spiral lamella, which penetrates scarcely to the ventral side. Inferior lamella receding, invisible in a front view, but appearing as a strong, deeply placed fold in an oblique view in the aperture; straightly ascending within, not penetrating quite so deeply as the spiral lamella. Subcolumellar lamella emerging. Principal plica short, extending from near the lip to a lateral position. Upper palatal plica very short, connected with the rather weak lunella, which curves inward at its lower end, and is dorso-lateral in position. Length 6.8, diam. 1.9 mm.; whorls 7½.

Length 7, diam. 2 mm.; whorls 7½.

Length 8, diam. 2.4 mm.; whorls 8 (larger form; see below).

Clausilium (Pl. XIX, figs. 45, 46) parallel-sided, the distal third straightened, the rest strongly curved; distal end slightly oblique and a little thickened; columellar side excised near the filament.

Yaku-shima, Ōsumi. Types No. 82,958, A. N. S. P., from No. 894 of Mr. Hirase's collection.

Very distinct from any known Japanese or Riukiuan species. The strength and coarseness of the sculpture is remarkable in so small a shell. The lamellæ and plicæ penetrate less deeply than usual.

One specimen (Pl. XIX, fig. 49) is larger and more obese than the others of the type lot, but it agrees in other characters.

The ribs are shown a little too much spaced on the last whorl of fig. 48.

Group of C. aulacopoma.

Shell similar to that of the group of *C. awajiensis*, except that a nodule-like lower palatal plica is developed inward from the termination of the lunella. Clausilium strongly curved, channeled on the outside at the apex.

The single species at present composing this group is strongly individualized by the peculiar modification of the clausilium.

Clausilia aulacopoma Pilsbry. Pl. XVII, figs. 12, 13, 14, 15, 16.

These *Proceedings* for 1901, LIII, p. 656, footnote No. 11 (March 1, 1902).

Shell fusiform, strongly attenuated above, brown, the surface lustreless, finely and weakly striate, more strongly so on the back of the last whorl. Whorls about 9½, convex, the apex small. Aperture trapezoidal-ovate, a little oblique. Peristome reflexed and thickened. Sinulus distinct and slightly retracted. Superior lamella marginal, small and low, continuous with the spiral lamella, which penetrates to the middle of the ventral side. Inferior lamella deeply receding, straightly ascending within the last whorl, distinctly thickened and a little sinuous near its lower end, a little shorter within than the spiral lamella. Subcolumellar lamella emerging to the lip-edge, though sometimes but weakly, and bounded by grooves. Principal plica extending from the dorsal nearly to the ventral side. Upper palatal plica short, united in the middle to the strong oblique, latero-dorsal lunella, which is straight above and curves inward below, its inner end being contiguous to a strong short, nodule-like lower palatal plica.

Length 13.5, diam. 3 mm.

Length 12.5, diam. 2.7 mm.

Length 12, diam. 3 mm.

Clausilium (Pl. XVII, figs. 13, 14) rather narrow and parallel-sided, very strongly curved, pinched into a channel or spout at the apex, abruptly and deeply emarginate on the columellar side of the filament.

Hirado, Hizen, in western Kyushu. Types No. 82,980, A. N. S. P., from No. 733*b* of Mr. Hirase's collection.

There is some variation in the degree of apical attenuation and in the emphasis of the subcolumellar lamella. Fig. 16 represents the type. Some specimens, as that drawn in fig. 12, are more swollen. The shell resembles species of the group of *C. awajiensis* in most of its characters, except for the nodule-like lower palatal plica, but it is very distinct in the specialization of the clausilium, which is channeled apically, much as in *C. crenilabium*, the channel apparently fitting over the lower palatal plica.

Section TYRANNOPHÆDUSA Pilsbry.

Group of C. mikado.

The forms described and illustrated below complete the illustration and description of the species and varieties now known of this section.

Clausilia aurantiaca Boettger. Pl. XX, figs. 50, 51, 52, 53, 54.

Boettger, Clausilienstudien, p. 68 (1877); Syst. Verz., p. 57 (1878); Jahrb. d. D. Malak. Ges., V, p. 101, Pl. 4, fig. 5.
Kobelt, Fauna Moll. Extramar. Jap., p. 95, Pl. 9, fig. 11 (1879).

This species was described from the " interior of Nippon " from specimens collected by Rein. Probably the types came from some province near the eastern end of the Inland Sea.

The shell is very solid for its size, fusiform, moderately attenuated above, the early whorls quite small. The subventral lunella is straight, connecting the two palatal plicæ like the letter I, but it is usually placed obliquely, crossing the line of the external striæ. The superior lamella is continuous with the spiral lamella, which penetrates inward across the ventral side to a point further inward than above the sinulus. The inferior lamella is equally long. The subcolumellar lamella typically emerges to the lip-edge. The shell usually is more or less orange-tinted brownish in color.

Specimens from Kobe, Setsu (B. Schmacker), are gray-brown or reddish-brown, worn, with 8½–10 whorls, and are about 13 mm. long. The subcolumellar lamella emerges.

Nohara, Yamato. Specimens measure from 12.3 x 3.3 mm. with 9½ whorls, to 14 x 3 mm. with 10 whorls. The subcolumellar lamella emerges.

Aiga, Kii. Glossy, orange-brown, transparent enough to show the lunella and plicæ through; whorls 9½–10½; length 11½–13½ mm. Subcolumellar lamella emerging.

Nachi, Kii (fig. 51). Brownish dark-red, opaque. Whorls 10 to 11; length 12¾ to 14 mm. The subcolumellar lamella emerges weakly or is immersed.

Kurozu, Kii. Whorls 10, length 12½–13 mm. The subcolumellar lamella emerges slightly or is immersed.

Ikari, Awaji (fig. 50). Color and texture as in last. Whorls 10; length 13–14 mm. The subcolumellar lamella emerges.

Suimura, Awa, Shikoku (figs. 52, 53). Rather light chestnut-brown, some specimens showing the lunella and plicæ through. Length 12–15 mm. The subcolumellar lamella emerges.

Obi, Hūga. The shells are gray-brown or reddish-brown, and measure 13 mm. long, 3 wide, with 10 whorls. The connection between the superior and spiral lamellæ is very low, almost interrupted, and the lunella is somewhat arcuate. The subcolumellar lamella emerges weakly. The clausilium of a specimen from this locality is figured (fig. 54).

Clausilia aurantiaca var. **erberi** Bttg. Pl. XX, figs. 55, 56, 57, 58, 59, 60.

Bœttger, Syst. Verz., p 57.
Moellendorff, J. A. S. B., LIV, pt. 2, No. 1, p. 65.
C. a. minor Mlldff., Journ. Asiatic Soc. Bengal, LI, pt. 2, No. 1, p. 9 (July, 1882); types from Nara, Yamato.

Smaller and somewhat more slender than *C. aurantiaca*, the subcolumellar lamella immersed; lip narrower; lunella not quite reaching the upper palatal plica.

This small form is usually fairly distinguishable from the typical *aurantiaca.* It extends from Harima to Yamato or Kii, specimens being before me from the following localities:

Tomisato, Kii. Whorls 8–9; length 10–11½ mm. The subcolumellar lamella barely emerges. It is not typical *erberi.* Perhaps referable rather to *aurantiaca* proper.

Gojo, Yamato. Length 10½, diam. 2 mm.; whorls 9½. Subcolumellar lamella immersed.

Nara, Yamato. Length 9½, diam. 2 mm.; whorls 9. Subcolumellar lamella immersed (Pl. XX, fig. 55, the palatal armature represented as though showing through, but the shell is opaque). This and the preceding are typical *erberi.*

Chikubu-shima, an island in Lake Biwa, Omi (fig. 56). Length varying from 10 to 12¾ mm.; whorls 9–10. The subcolumellar lamella is immersed. Though some specimens are rather large, their characters are otherwise as in the smaller ones with them. The shell figured in outline is 10.3 mm. long.

Kashima, Harima (Pl. XX, figs. 57–60). Glossy, handsome specimens, 10½ to 11½ mm. long, with 10 to 10½ whorls. The subcolumellar lamella is immersed; the palatal plicæ are long, but the lunella is very short in some examples (fig. 59), while in others it is as long as in shells from Yamato.

Clausilia aurantiaca var. **plicilabris** (A. Adams). Pl. XX, figs. 61, 62, 63.

C. plicilabris A. Ad., Ann. and Mag. Nat. Hist. (4 ser.), I, 1868, p. 469. Pfr., Monogr., VIII, p. 476. Kobelt, Fauna Moll. Extramar. Jap., p. 98.

C. aurantiaca var. *hypoptychia* Pilsbry, these *Proceedings* for 1901, p. 652, footnote No. 7.

Shell fusiform, moderately swollen, distinctly attenuated above, slender near the apex; whitish under a pale-brown cuticle, all of the specimens seen being more or less eroded on the surface. Closely striate. Whorls about 10½, the last one tapering. Aperture piriform. Peristome pale brown or dirty white, thick and somewhat broadly reflexed, crossed by *several unequal folds in the subcolumellar region.* Superior lamella rather strong, *becoming low within,* barely continuous with *or disconnected from* the spiral lamella, which penetrates just past the ventral side. Inferior lamella very deeply receding, nearly as long within as the spiral lamella. Subcolumellar lamella emerging to the lip-edge, accompanied by one or several accessory folds. Lunella joining the lower palatal fold near its inner end, scarcely connected with the upper palatal fold.

Length 15, diam. 3.4 mm.

Length 13.7, diam. 3.3 mm.

Length 16, diam. 3.3 mm.

Kashima, an island near Tanabe, Kii. No. 82,459, A. N. S. P., from No. 782 of Mr. Hirase's collection.

As in other *Tyrannophœdusœ* of the typical group, there is a slight depression behind the outer and basal lips. It is more slender above and more swollen below than *C. orthatracta* Pils.

Further study of Adams' description convinces me that the form I named *C. aurantiaca* var. *hypoptychia* can be nothing else than *C. plicilabris* A. Ad., described from Tanabe, Kii, the description of which, so far as it goes, agrees exactly with the shells sent by Mr. Hirase. By "*lunella inconspicua*" Adams merely meant that it was not visible through the shell.

The degree of plication of the subcolumellar region varies within wide limits, as I have shown to be the case in several other species of *Tyrannophœdusa.*

I do not give the name *plicilabris* precedence over *aurantiaca,* because the description published by Adams was not sufficient for the recognition of the species until specimens from the type locality came to hand.

One specimen which was sent with v. *plicilabris* (Pl. XX, figs. 64, 65) is much larger than the others, measuring, length 19, diam. 3.8 mm. It is densely and sharply striate, and has 13 whorls. This may perhaps prove, when more material is received, to be a distinct species. It is No. 83,134, A. N. S. P.

Group of C. bilabrata.

Clausilia dalli Pilsbry. Pl. XXI, figs. 75, 76, 77.

These *Proceedings* for 1901, LIII. p. 656, footnote No. 13 (March 1, 1902).

Shell *many whorled,* awl-shaped, the *upper half much attenuated, lower half obese,* pale brown, rather thin, scarcely glossy, all the specimens having the cuticle slightly worn below, wanting above; finely striate, more coarsely so on the back of the last whorl. Whorls 14½ to 15½, moderately convex, the first whorl rather globose, next 5 or 6 whorls scarcely increasing in diameter, those following enlarging slowly, the last three whorls forming about half the length of the shell, the penultimate whorl widest, last whorl narrower, compressed. Aperture trapezoidal-ovate, slightly oblique. Peristome continuous, thickened and reflexed, white, the right margin crossed by a single fold (the subcolumellar, fig. 76) or having a group of folds in that region (fig. 77). Superior lamella oblique, attaining the margin, rather widely separated from the spiral lamella. Spiral lamella continued inward to a point above the sinulus. Inferior lamella deeply receding, though often continued to the lip-edge, obliquely and straightly ascending within, and continued inward a little beyond the termination of the spiral lamella. Subcolumellar lamella emerging to the lip-edge, and usually bounded by grooves. The principal plica is about a half-whorl long, extending from a dorsal to a ventral position. The lunella is strong, latero-ventral, its upper end curving inward, lower end united to the lower palatal plica at or near its inner end.

Length 19, diam. 4.1, diam. of second whorl 1 mm.

Length 17, diam. 3.8, diam. of second whorl .8 mm.

Clausilium narrow, oblique at the distal end, thickened along the columellar margin and distally, as usual in *Tyrannophœdusa.*

Tairiuji, Awa, Shikoku Island. Types No. 82,957, A. N. S. P., from No. 819 of Mr. Hirase's collection.

This peculiar species resembles *C. mikado* Pils. in its much attenuated, concave-sided spire, which is more slender than that of *C. iotaptyx* Pils. It stands between *iotaptyx* and *mikado* in the number of whorls. The aperture is formed about as in *C. iotaptyx,* not being built forward as in *C. mikado.* From both of the species named it differs in palatal armature, the lunella being like that of *C. bilabrata* Smith. The spire is apparently not subject to self-amputation, the apex being entire in the six specimens before me. The clausilium is of the shape usual in *Tyrannophœdusa.*

C. dalli is named for the Honorary Curator of the Department of Mollusks of the U. S. National Museum.

Section EUPHÆDUSA Boettger.

Clausilia holotrema Pilsbry. Pl. XXI, fig. 72.

Pilsbry, these *Proceedings* for 1901, p. 654, footnote No. 8 (March 1, 1902).

Shell rimate, fusiform, the upper third rapidly tapering to a minute apex; *vinous brown, with a wide corneous zone below the sutures, which is largely covered with whitish papery cuticle* (like that of *Helicostyla*); some interrupted spiral lines of the same appearing upon the dark color, and oblique streaks on some earlier whorls. The base of the last whorl is pale-corneous. Surface somewhat glossy, evenly thread-striate obliquely. Whorls a trifle over 8, convex, the last well rounded beneath. *Aperture wide,* oval, vertical, the peristome expanded, subreflexed, somewhat thickened within, continuous, in contact with the preceding whorl above. *Superior lamella wholly wanting,* the spiral lamella arising far within. Inferior lamella forming a small and deeply-placed but prominent subhorizontal fold. Subcolumellar lamella deeply immersed. Principal plica short, dorso-lateral. Moderately long upper and lower palatal plicæ are developed (but apparently no lunella).

Length 12, diam. 3.1, length of aperture 3.2 mm.

Nachi, Kii. Type No. 82,454, A. N. S. P., from No. 789 of Mr. Hirase's collection.

A single specimen of this remarkable *Euphœdusa* was sent by Mr. Hirase, with the remark that it seemed different from any other species. It stands in the middle between the "group of *C. hungerfordiana*" and that of *C. euholostoma,* as defined in my last paper upon this topic. Both of these groups have the superior lamella absent or vestigial, represented by a slight thickening of the peristome, and there is more or less whitish, papery cuticle, in streaks and spiral lines. *C. holotrema* resembles *C. hungerfordiana* in the palatal armature, but is more like *euholostoma* in the squarish-oval, not in the least piriform shape of the aperture. The dark, wide, wine-brown belt, contrasting with the corneous, white-variegated band above, makes it a conspicuous species. This belt terminates short of the outer lip, as shown by transparence in the figure. The single specimen received has not been opened, but this is the less essential because the palatal folds show through the thin shell.

Section STEREOPHÆDUSA Boettger.

Group of C. una.

Similar in general characters to the group of *C. japonica,* but with the right margin of the lip plicate, and having a short lunella developed in connection with the lower palatal plica; no intermediate palatal plicæ.

Clausilia una Pilsbry. Pl. XXI, figs. 66, 67, 68, 69.

These *Proceedings* for 1901, LIII, p. **656**, footnote No. **14** (March 1, 1902).

Shell regularly tapering above, attenuated near the apex, very solid and strong, pale yellowish, slightly glossy, regularly, closely striate, the striation becoming much coarser on the back of the last whorl. Whorls 11½ to 12, moderately convex, the penultimate widest. Apical whorl globose, the next 2 or 3 whorls hardly increasing in diameter, last whorl a little compressed. Aperture ovate, hardly oblique. Peristome thickened and reflexed, continuous, shortly free above, a little notched or emarginate at the position of the superior lamella, *the entire upper and right margins closely and deeply plicate.* Superior lamella slender, subvertical, marginal, continuous within with the spiral lamella, which is high laterally, and continues inward to a point above the sinulus. Inferior lamella bifid, *appearing as a double fold below,* ascending in a wide spiral, and continued inward as far as the spiral lamella. Subcolumellar lamella emerging to the lip-edge. Principal plica over a half-whorl long, visible deep in the throat and extending inward to the ventral side. There is a small upper palatal plica, lateral in position and converging inward toward the principal plica, and a much longer, arcuate, lower palatal plica, from the middle of which a very short, rudimentary lunella arises.

Length 23, diam. 5.3 mm.

Length 21.5, diam. 5.2 mm.

Clausilium (Pl. XXI, figs. 68, 69) broad distally, irregularly rounded and strongly thickened at the apex, somewhat emarginate on the columellar side of the filament.

Gotō, Hizen. Types No. 82,955, A. N. S. P., from No. 816 of Mr. Hirase's collection. The habitat "Gotō, Uzen," given in my preliminary note, was erroneous.

Clearly a *Stereophædusa* by its clausilium, strongly spiral inferior lamella and palatal armature, yet unique in that section by the beautiful plication of the right margin of the peristome. No other species from Japan proper has such sculpture, a few forms of *Tyrannophædusa* alone having it much less developed and confined to the subcolumellar region ; but in the section *Luchuphædusa* of the Riukiu Islands similar interlamellar plication exists. The double fold of the inferior lamella is also a rare structure, but it occurs in *Cl. excellens* Pfr., also a Riukiuan species.

Group of C. entospira.

Clausilia dæmonorum n. sp. Pl. XXI, figs. 70, 71.

Shell small, fusiform, rather thin, finely substriate, the latter part of the last whorl more coarsely so; glossy. Early whorls lost in the specimens described; the last whorl is laterally compressed, flattened, the base convex, full and somewhat sack-like. Aperture oblique, irregularly ovate, the peristome continuous, very shortly free above. Superior lamella small, marginal, short, *not continuous with the spiral lamella.* Inferior lamella receding, *becoming very high and approaching the superior lamella in the throat;* and within the last whorl *it ascends in a broad spiral curve.* Subcolumellar lamella emerging to the lip-edge. Principal plica rather short. Lunella rather short and arcuate. Clausilium unknown.

Length of specimen with 4¾ whorls remaining, 8.2, diam. 2 mm.

Length of specimen with 4½ whorls remaining, 7.8, diam. 2.2 mm.

Kikaiga-shima, Ōshima group. Types No. 82,981, A. N. S. P., from No. 874 of Mr. Hirase's collection.

A fossil of the land-shell bed. It has the form, size and surface of a *Zaptyx,* but is unlike that group in the widely spiral ascent of the inferior lamella within. Whether the species is allied to *C. entospira,* which I have placed in *Stereophædusa,* or is an *Euphædusa* I am not prepared to say in the absence of the clausilium; for it has something in common with both groups—the spiral inferior lamella approaching the superior in the throat, the superior lamella not connected with the spiral, etc.; but provisionally, and merely to put it somewhere, I refer the species to the group of *C. entospira.*

EXPLANATION OF PLATES XVII—XXI.

Plate XVII, Figs. 1, 2.—*Clausilia caryostoma* Mlldff. Kobe, Setsu.
Figs. 3, 4, 5, 6.—*C. caryostoma* var. *jayi* Pils. Jo, Kii.
Figs. 7, 8, 9, 10, 11.—*C. graciæ* Pils. Nachi, Kii.
Figs. 12, 13, 14, 15, 16.—*C. aulacopoma* Pils. Hirado, Hizen.

Plate XVIII, Figs. 17, 20, 21, 22.—*C. heteroptyx* Pils. Type. Tomisato, Kii.
Fig. 18.—*C. heteroptyx* Pils. Nachi, Kii.
Fig. 19.—*C. heteroptyx* Pils. Tomisato, Kii.
Figs. 23, 24, 25, 26, 27.—*C. sericina* var. *rhopalia* Pils. Mikuriya, Suruga.
Figs. 28, 29, 30.—*C. subulina* var. *leucopeas* Pils. Ikoma, Kii.
Figs. 31, 32.—*C. subulina* var. *leucopeas* Pils. Samotonaka-mura, Kii.

PLATE XIX, Figs. 33, 34, 35, 36.—*C. subignobilis* Pils. Hirado, Hizen.

Figs. 37, 38.—*C. bigeneris* Pils. Gotō, Hizen.

Figs. 39, 40, 41, 42.—*C. agna* Pils. Yaku-shima, Ōsumi.

Figs. 43, 44.—*C. tantilla* Pils. Gotō, Hizen.

Figs. 45, 46, 47, 48.—*C. caloptyx* Pils. Yaku-shima, Ōsumi.

Fig. 49.—*C. caloptyx* Pils., an obese form from the same locality.

PLATE XX, Fig. 50.—*C. aurantiaca* Bttg. Ikari, Awaji.

Fig. 51.—*C. aurantiaca* Bttg. Nachi, Kii.

Figs. 52, 53.—*C. aurantiaca* Bttg. Suimura, Awa (Shikoku).

Fig. 54.—*C. aurantiaca* Bttg. Clausilium of a specimen from Obi, Hūga.

Fig. 55.—*C. aurantiaca* var. *erberi* Bttg. Nara, Yamato. The shell is opaque, the palatal armature being represented diagrammatically in this figure.

Fig. 56.—*C. aurantiaca* var. *erberi* Bttg. Chikubu-shima, Omi.

Figs. 57, 58, 59, 60.—*C. aurantiaca* var. *erberi* Bttg. Kashima, Harima.

Figs. 61, 62, 63.—*C. aurantiaca* var. *plicilabris* A. Ad. Kashima, near Tanabe, Kii.

Figs. 64, 65.—*C. aurantiaca* var. *plicilabris* A. Ad. Large form from the same locality.

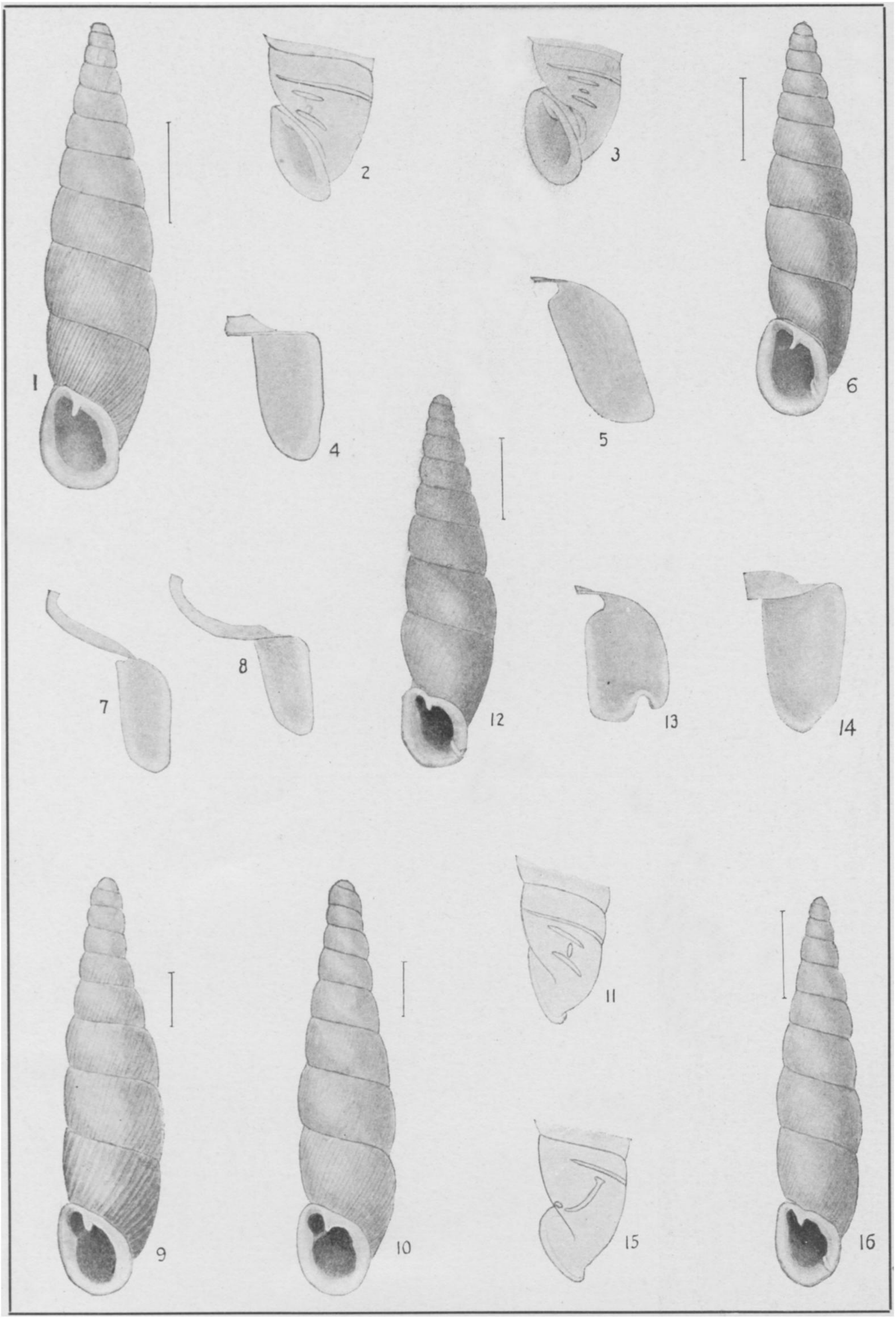
PLATE XXI, Figs. 66, 67, 68, 69.—*C. una* Pils. Gotō, Hizen.

Figs. 70, 71.—*C. dæmonorum* Pils. Kikaiga-shima, Ōshima group.

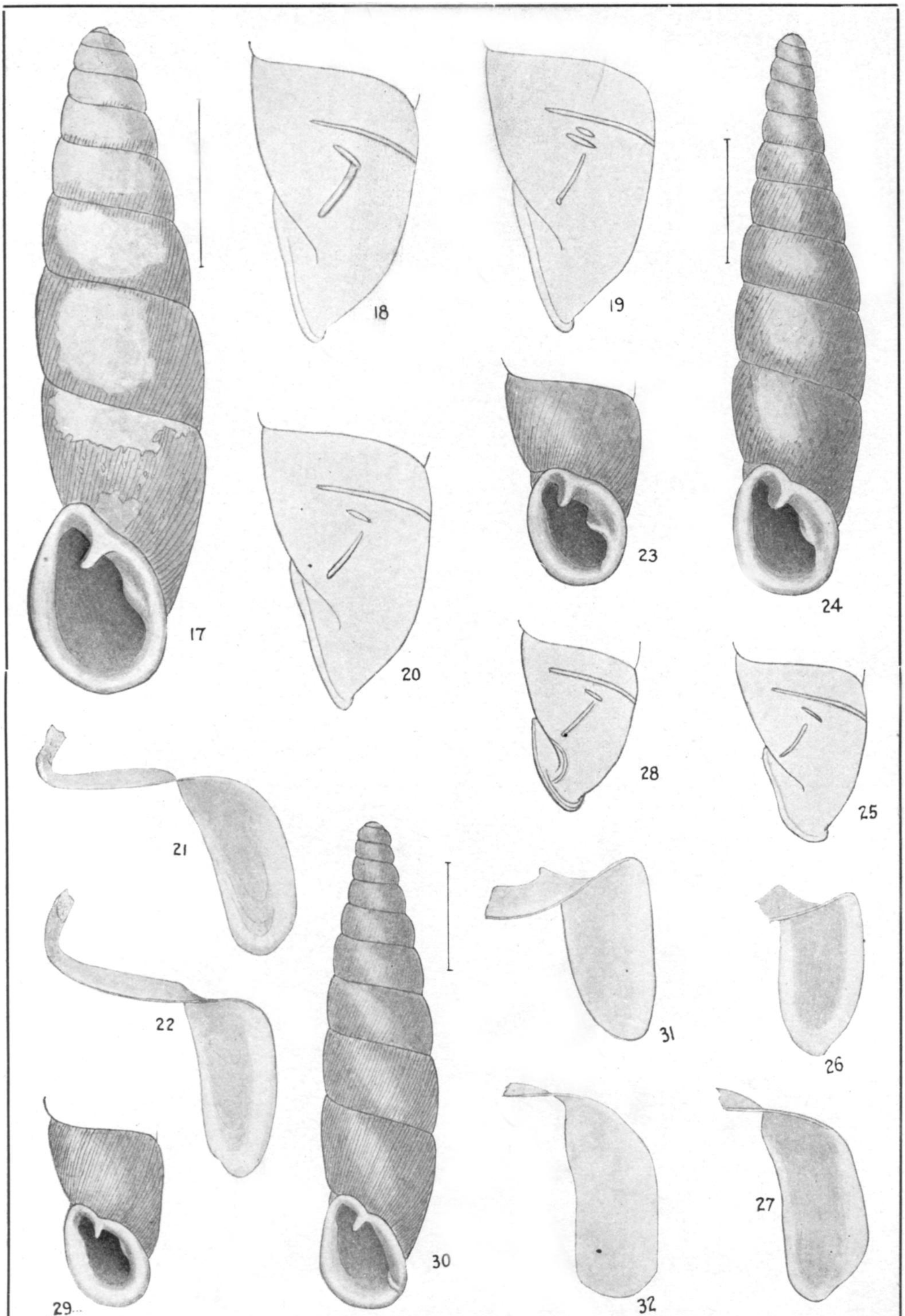
Fig. 72.—*C. holotrema* Pils. Nachi, Kii.

Figs. 73, 74.—*C. pigra* Pils. Kashima, Harima.

Figs. 75, 76, 77.—*C. dalli* Pils. Tairiuji, Awa (Shikoku).



PILSBRY. JAPANESE LAND SNAILS.



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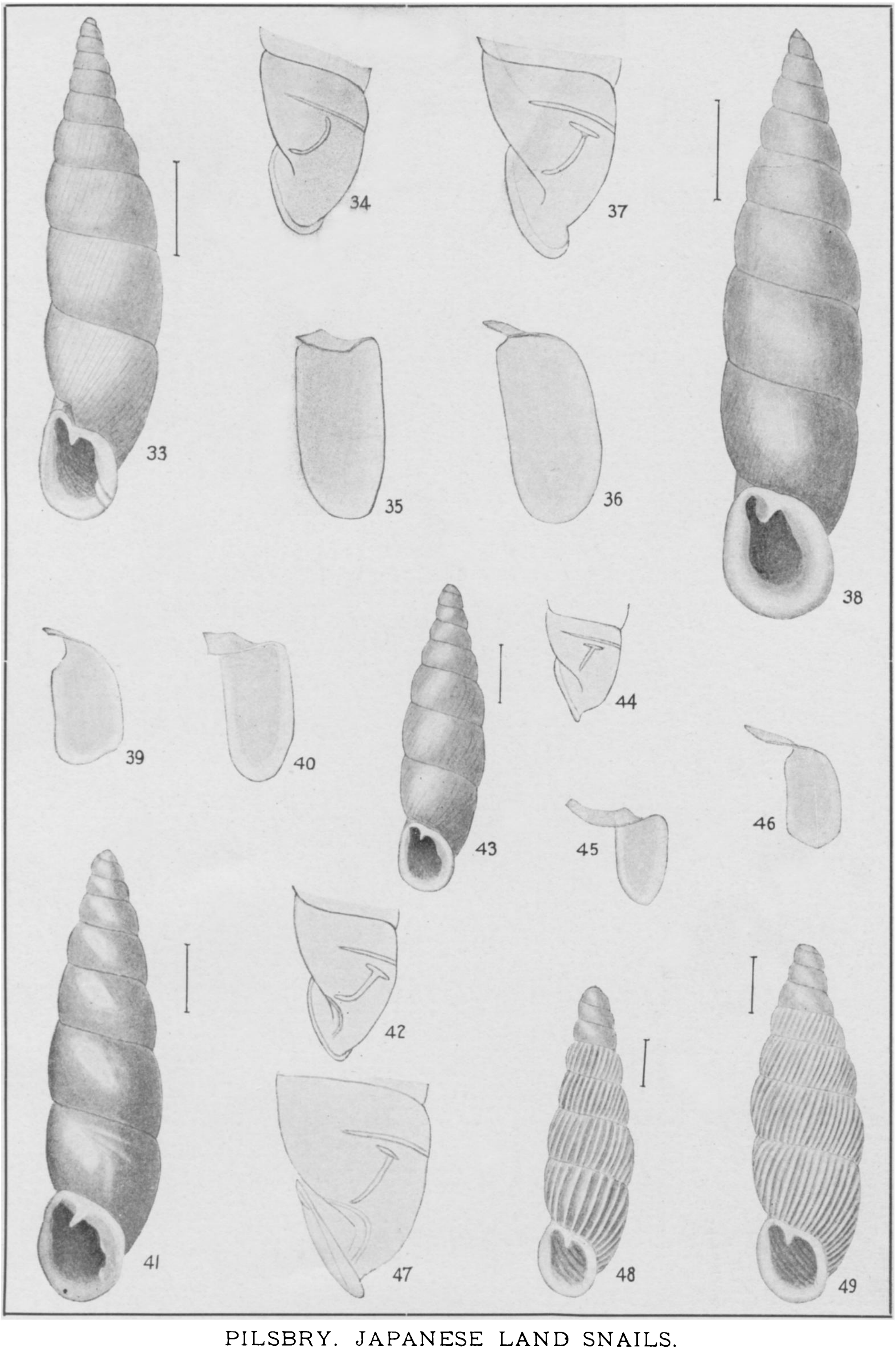

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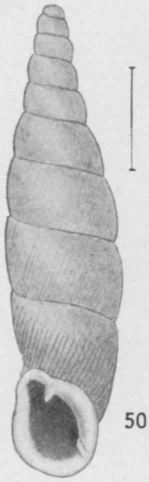
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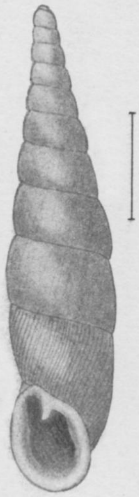
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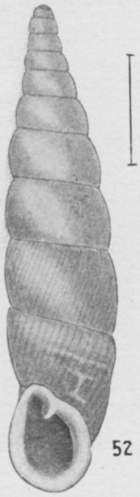
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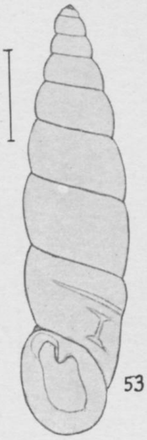
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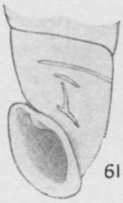
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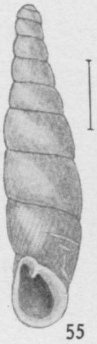
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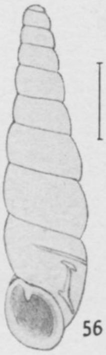
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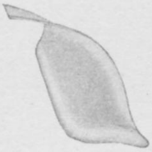
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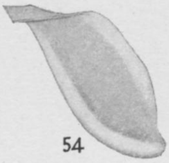
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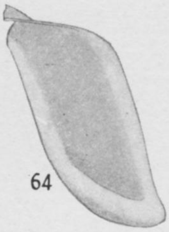
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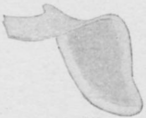
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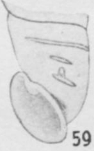
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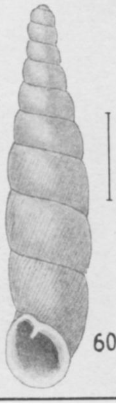
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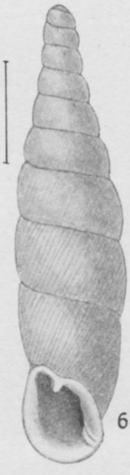
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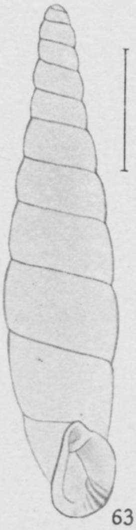
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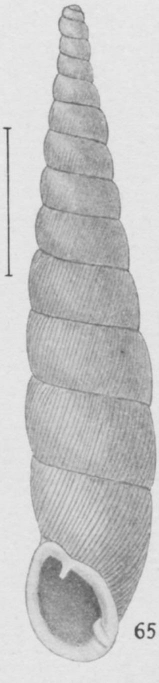
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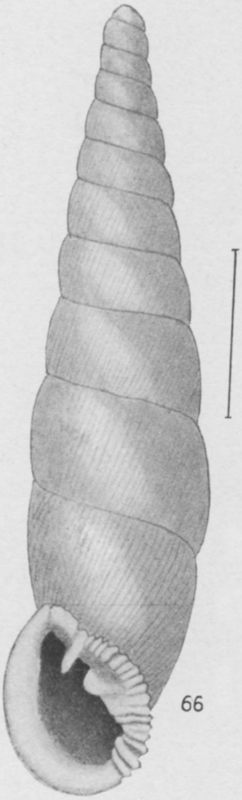
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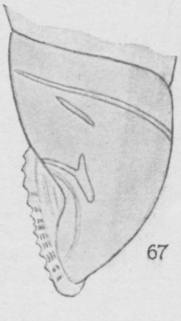
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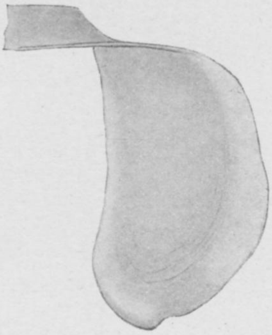
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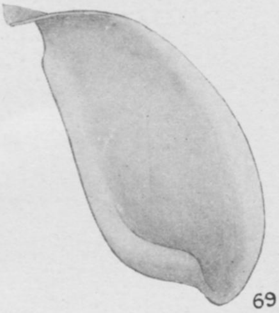
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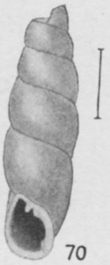
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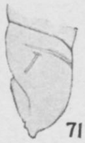
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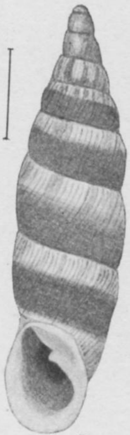
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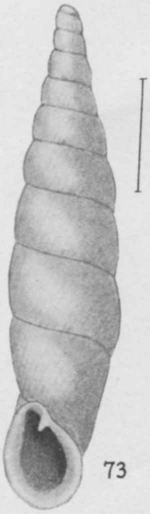
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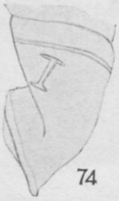
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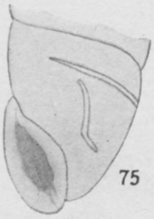
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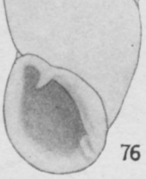
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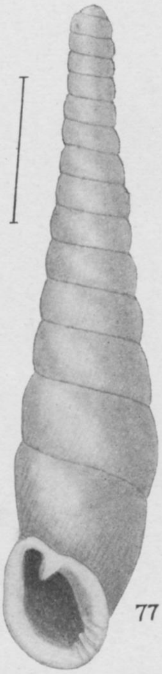
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